

## CLAIMS

What is claimed is:

1. A method for maintaining and graphically displaying geographic information regarding the location of telecommunication cable and determining the relative geographic distance from telecommunication cable to user-selected nodes, the method comprising:

receiving geographic information in a computer readable form sufficient to generate an electronic map of the metropolitan area;

receiving vendor information in a computer readable form for at least one vendor who owns telecommunication cable in the metropolitan area, the vendor information comprising:

the location of telecommunication cable in the metropolitan area;

the owner of the telecommunication cable;

the locations of nodes associated with the telecommunication cable; and

the types of nodes associated with the telecommunication cable;

providing a graphical user interface permitting the user to select at least one vendor from the at least one vendors who own telecommunication cable in the metropolitan area and at least one node from the at least one nodes of the types associated with telecommunication cable in the metropolitan area;

receiving user input selecting at least one of the vendors who own telecommunication cable in the metropolitan area;

generating a display layer graphically illustrating the metropolitan area;

generating a display layer graphically illustrating the vendor information for the telecommunication cable of each of the vendors selected by the user;

displaying the display layer graphically illustrating the metropolitan area and the display layers graphically illustrating the vendor information for the telecommunication cable of each of the least one vendors selected by the user;

receiving user input selecting at least one of the nodes in the metropolitan area;

calculating the distance from each of the at least one user-selected nodes to the at least one user-selected telecommunication cable from the metropolitan area; and

displaying the calculation results of the distance to each of the at least one user-selected nodes to the nearest user-selected telecommunication cable.

2. The method of claim 1, wherein generating display layers graphically illustrating the vendor information for the telecommunication cable of each of the vendors selected by the user further comprises:

generating a graphical representation of the geographical location of the telecommunication cable owned by the selected vendors; and

generating a graphical representation of the geographical locations of nodes associated with the telecommunication cable owned by the selected vendors.

3. The method of claim 2, wherein generating a graphical representation of the geographical locations of nodes further comprises generating a different symbolic representation of each node type.

4. The method of claim 2, wherein generating a graphical representation of the geographical location of the telecommunication cable owned by the selected vendors further

comprises generating a different symbolic representation for the telecommunication cable of each vendor.

5. The method of claim 1, wherein receiving user input selecting at least one of the vendors who own telecommunication cable in the metropolitan area comprises receiving a prioritized selection of at least two vendors.

6. The method of claim 5, wherein generating display layers graphically illustrating the vendor information comprises:

generating a different graphical representation of the geographical location of each of the telecommunication cables owned by the at least two prioritized vendor selections of the user; and

generating a different graphical representation of the geographical locations of nodes associated with the telecommunication cable owned by the selected vendors.

7. The method of claim 6, wherein generating a different graphical representation of the geographical locations of the nodes further comprises generating a different symbolic representation of each node type.

8. The method of claim 1, wherein the distances are calculated from each of the at least one user-selected nodes to the nearest of the at least one user-selected telecommunication cables.

9. The method of claim 8, wherein the calculated distances are displayed numerically in table format and identified by the node identifier of the corresponding node.

10. The method of claim 8, wherein the calculated distances are displayed as illustrated on the display layer graphically illustrating the metropolitan area.

11. A method for storing, and graphically displaying information regarding a metropolitan area high bandwidth telecommunication network and calculating the relative geographic distance from user-selected nodes to high bandwidth telecommunication cable, the method comprising:

establishing electronic maps of a plurality of metropolitan areas;

establishing an electronic map of the high bandwidth telecommunication cable owned by individual vendors in each of the plurality of metropolitan areas, the maps of the high bandwidth telecommunication cable comprising:

the geographical location of the high bandwidth telecommunication cable owned by that vendor in the metropolitan area; and

the geographical location of nodes associated with the high bandwidth telecommunication cable owned by that vendor in the metropolitan area;

displaying a list of the plurality of metropolitan areas;

receiving user input selecting one of the plurality of metropolitan areas;

displaying a list of vendors who own high bandwidth telecommunication cable in the selected metropolitan area;

receiving user input selecting at least one vendor from the list of vendors who own high bandwidth telecommunication cable in the selected metropolitan area;

displaying a list of nodes of the types associated with high bandwidth telecommunication cable in the selected metropolitan area;

receiving user input selecting at least one node of the types associated with high bandwidth telecommunication cable in the selected metropolitan area;

displaying the electronic map of the selected metropolitan area;  
displaying the electronic maps of the high bandwidth telecommunication cable owned by each of the selected vendors over the map of the selected metropolitan area;

receiving user input initiating a calculation of the distance from user-selected nodes to user-selected high bandwidth telecommunication cable in the user-selected metropolitan area; and

calculating the distance from each of the at least one user-selected nodes of the types associated with telecommunication cable from the metropolitan area to the at least one user-selected telecommunication cable from the metropolitan area.

12. The method of claim 11, wherein:

displaying a list of vendors who own high bandwidth telecommunication cable in the selected metropolitan area;

receiving user input selected at least one vendor from the list of vendors who own high bandwidth telecommunication cable in the selected metropolitan area;

displaying the electronic map of the selected metropolitan area; and

displaying the electronic maps of the high bandwidth telecommunication cable owned by the selected vendors over the map of the selected metropolitan area;

occur simultaneously after receiving user input selecting one of the plurality of metropolitan areas.

13. The method of claim 11, further comprising:

receiving user input selecting a geographical location; and

displaying a graphical representative of the selected geographical location over the map of the selected metropolitan area.

14. The method of claim 13, wherein receiving user input selecting a geographical location comprises:

providing a cursor positionable by the user over the map of the selected metropolitan area; and

receiving user input when the cursor is positioned over the geographical location selected by the user.

15. The method of claim 13, wherein receiving user input selecting a geographical location comprises receiving a latitude and longitude from a user.

16. The method of claim 13, wherein receiving user input selecting a geographical location comprises receiving a street address from a user.

17. The method of claim 11, wherein receiving user input selecting at least one node of the types associated with high bandwidth telecommunication cable comprises:

providing a cursor positionable by the user of the map of the selected metropolitan area; and

receiving user input when the cursor is positioned over the node selected by the user.

18. The method of claim 11, wherein receiving user input selecting at least one node of the types associated with high bandwidth telecommunication cable comprises:

providing a cursor positionable by the user of the map of the selected metropolitan area; and

receiving user input when the user has created a two-point box enclosing at least one node with the cursor.

19. The method of claim 11, wherein:

receiving user input selecting at least one vendor from the list of vendors who own high bandwidth telecommunication cable in the selected metropolitan area comprises receiving user input selecting a plurality of vendors and ranking the plurality of vendors selected in ascending priority; and

displaying the electronic maps of the high bandwidth telecommunication cable owned by the selected vendors over the selected metropolitan area comprises displaying the electronic maps of the high bandwidth telecommunication cable owned by the selected vendors in ascending prominence corresponding to the ascending priority given each selected vendor.

20. The method of claim 11, wherein displaying the electronic maps of the high bandwidth telecommunication cable owned by the selected vendors over the map of the selected metropolitan area further comprises:

displaying a different graphical representation of the high bandwidth telecommunication cable owned by each selected vendor; and

displaying a different graphical representation of the nodes associated with the high bandwidth telecommunication cable owned by each selected vendor.

21. The method of claim 11, wherein displaying a different graphical representation of the nodes associated with the high bandwidth telecommunication cable owned by each selected vendor further comprises displaying a different symbolic representation of each form of node in the displayed metropolitan area.

22. A computer-readable medium containing computer-readable code embodied thereon for causing a computer to perform a method of calculating, maintaining, and displaying information regarding the geographical location of high bandwidth telecommunication cable in relation to its associated nodes within a metropolitan area as a distance, the method comprising:

receiving and storing electronic information for geographically mapping a plurality of metropolitan areas;

receiving and storing vendor information for each of the plurality of metropolitan areas, the vendor information comprising:

the identity of the vendor;

the location of the high bandwidth telecommunication cable owned by the vendor in each of the plurality of metropolitan areas;

the location of nodes associated with the high bandwidth telecommunication cable owned by the vendor; and

the type of each node;

providing a graphical user interface that displays information to a user and receives input from a user;

displaying a list of the plurality of metropolitan areas;

receiving user input selecting a metropolitan area;

displaying a geographical map of the selected metropolitan area;

displaying a list of the vendors who own high bandwidth telecommunication cable in the selected metropolitan area;

receiving user input selecting at least one vendor from the list of vendors who own high bandwidth telecommunication cable in the selected metropolitan area;

displaying the location of the high bandwidth telecommunication cable owned by the selected vendors over the geographical map of the selected metropolitan area;

receiving user input selecting at least one node of the types associated with high bandwidth telecommunication cable in the selected area;

displaying the location of the user-selected nodes associated with high bandwidth telecommunication cable over the geographical map of the selected metropolitan area;

calculating the distance from the at least one user-selected node to the at least one user-selected telecommunication cable; and

displaying the results of the distance calculation.

23. The computer-readable medium of claim 22, wherein the at least one distance calculated is from each of the at least one user-selected nodes to the nearest of the at least one user-selected telecommunication cables.

24. The computer-readable medium of claim 22, wherein the method performed by a computer executing the computer-readable code embodied on the computer-readable medium further comprises:

receiving user input designating whether to display nodes; and  
if a user inputs a designation to display nodes, displaying the nodes associated with the high bandwidth telecommunication cable for the user-selected metropolitan area.

25. The computer-readable medium of claim 24, wherein displaying the location of the high bandwidth telecommunication cable owned by the selected vendors over the

geographical map of the selected metropolitan area further comprises displaying different graphical representations of the high bandwidth telecommunication cable owned by each of the selected vendors.

26. The computer-readable medium of claim 24, wherein receiving user input selecting at least one vendor from the list of vendors who own high bandwidth telecommunication cable in the selected metropolitan area further comprises receiving user input selecting at least two vendors in a priority order from highest to lowest priority.

27. The computer-readable medium of claim 26, wherein displaying the location of the high bandwidth telecommunication cable owned by the selected vendors over the geographical map of the selected metropolitan area further comprises displaying the location of the high bandwidth telecommunication cable owned by the at least two vendors selected in a priority order in a prominence corresponding with the vendors priority, the highest priority vendor's cable being the most prominent and the lowest priority vendor's cable being the least prominent.

28. The computer-readable medium of claim 27, wherein the method performed by a computer executing the computer-readable code embodied on the computer-readable medium further comprises receiving user input selecting a physical location within the selected metropolitan area.

29. The computer-readable medium of claim 28, wherein receiving user input selecting a physical location within the selected metropolitan area comprises:

providing a user positionable cursor; and

receiving user input when the cursor is positioned over the position on the display of the geographical map of the metropolitan area corresponding to the physical location to be designated.

30. The computer-readable medium of claim 28, wherein receiving user input selecting a physical location within the metropolitan area comprises receiving a latitude and longitude from the user.

31. The computer-readable medium of claim 28, wherein receiving user input selecting a physical location within the metropolitan area comprises receiving a street address from the user.

32. The computer-readable medium of claim 22, wherein the method performed by a computer executing the computer-readable code embodied on the computer-readable medium further comprises displaying the geographic location of the node and high bandwidth telecommunication cable between which the distance was calculated on the electronic map of the selected metropolitan area.

33. The computer-readable medium of claim 32, wherein receiving user input selecting the node to cable distance calculation result for display of the selected geographical location over the map of the selected metropolitan area comprises:

providing a user positionable cursor; and  
receiving user input when the cursor is positioned over the position of the calculation results display corresponding to the physical location of the geographical map of the metropolitan area to be designated.

34. The computer-readable medium of claim 32, wherein receiving user input selecting the node to cable distance calculation result for display of the selected geographical

location over the map of the selected metropolitan area comprises receiving a latitude and longitude of the corresponding node from the user.

35. The computer-readable medium of claim 32, wherein receiving user input selecting the node to cable distance calculation result for display of the selected geographical location over the map of the selected metropolitan area comprises receiving a street address of the corresponding node from the user.

36. The computer-readable medium of claim 32, wherein receiving user input selecting the node to cable distance calculation result for display of the selected geographical location over the map of the selected metropolitan area comprises receiving a node identifying name.